



National Transportation Safety Board Aviation Accident Final Report

Location:	St. Charles, MO	Accident Number:	CHI06LA060
Date & Time:	01/09/2006, 1720 CST	Registration:	N310CK
Aircraft:	Cessna 310R	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The airplane received substantial damage following a bird strike to the airplane's right wing tip tank during cruise flight. Dusk meteorological conditions with an overcast layer of clouds prevailed at the time of the accident. A fire was first noticed by the pilot during an after landing taxi. The pilot evacuated the airplane, and the fire continued to burn for an additional 35 minutes until an explosion occurred. The pilot stated that the bird impacted the top portion of the tip tank and the strobe/navigation assembly within the tip tank was damaged with a broken strobe light bulb. The right tip tank was full of fuel at the time of the bird strike.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The in-flight collision with a duck during cruise flight resulting in a ruptured fuel tank and the strobe/light assembly electrical short resulting in a fire to the right wing tip tank. Contributing factors were the dusk light conditions.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: CRUISE

Findings

1. (C) OBJECT - BIRD(S)
2. (F) LIGHT CONDITION - DUSK

Occurrence #2: FIRE/EXPLOSION

Phase of Operation: EMERGENCY LANDING

Findings

3. (C) EXTERIOR LIGHT(S) - OTHER
4. (F) FUEL SYSTEM, TANK - RUPTURED

Factual Information

On January 9, 2006, at 1720 central standard time, a Cessna 310R, N310CK, operated by St. Charles Flying Service as a cargo airplane, received substantial damage on impact with a duck during cruise flight about 10 statute miles west of St. Charles County Smartt Airport (SET), St. Charles, Missouri. A fire in the right wing tip tank was first noticed by the pilot after landing. Dusk visual meteorological conditions prevailed at the time of the accident. The 14 CFR Part 135 cargo positioning flight had filed but not activated an instrument rules flight plan. The pilot was uninjured. The flight originated from SET and was en route to Jefferson City Memorial Airport, Jefferson City, Missouri, when it returned to SET after the bird strike.

The pilot stated that he initially leveled off below class B airspace at 1,500 feet mean sea level (msl), then climbed "another couple of feet" to get an instrument flight rules clearance. At the time of the bird strike, the airplane was at a cruise altitude of 1,900 - 2,000 feet msl and at 145 - 155 knots indicated airspeed. After the bird strike, the pilot looked at the right wing and saw the right wing damaged. He stated that there were no problems controlling the airplane after the impact and everything was "normal". After landing, he made a slow turn onto a taxiway and then saw flickering in the corner of his eye, which were flames from the right wing tip tank. He then exited the airplane and called the local fire department, which arrived 20 minutes later. The fire department did not have foam, and the fire burned for an additional 15-20 minutes until there was an explosion, at which time the fire self-extinguished. The tip tanks were full of fuel.

The pilot stated that the top portion of the tip tank was damaged, and the strobe/navigation light assembly was damaged with a broken strobe bulb.

The feathers that adhered to the wing were identified as being from a Mallard, which has an average weight of 1,080 grams (2.38 pounds) with a weight range of 500-1,800 grams (1.10 - 3.97 pounds).

Pilot Information

Certificate:	Airline Transport	Age:	61, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2	Last FAA Medical Exam:	10/01/2005
Occupational Pilot:		Last Flight Review or Equivalent:	11/01/2005
Flight Time:	9000 hours (Total, all aircraft), 1000 hours (Total, this make and model), 8900 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N310CK
Model/Series:	310R	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	310R-1889
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	08/01/2005, 100 Hour	Certified Max Gross Wt.:	5065 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	4312.6 Hours at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-520
Registered Owner:	St. Charles Flying Service/Klondike Air LLC	Rated Power:	
Operator:	St. Charles Flying Service/Klondike Air LLC	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	DFJA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	SET, 439 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	1654 CST	Direction from Accident Site:	90°
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	Overcast / 2000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.37 inches Hg	Temperature/Dew Point:	3° C / -1° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	St. Charles, MO (SET)	Type of Flight Plan Filed:	IFR
Destination:	Jefferson City, MO (JEF)	Type of Clearance:	VFR
Departure Time:	1720 CST	Type of Airspace:	

Airport Information

Airport:	St. Charles Co Smartt (SET)	Runway Surface Type:	Asphalt
Airport Elevation:	436 ft	Runway Surface Condition:	Dry
Runway Used:	36	IFR Approach:	Visual
Runway Length/Width:	3801 ft / 75 ft	VFR Approach/Landing:	Full Stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	On-Ground
Total Injuries:	1 None	Latitude, Longitude:	38.929722, -90.430000

Administrative Information

Investigator In Charge (IIC):	Mitchell F Gallo	Report Date:	08/29/2006
Additional Participating Persons:	June Tonsing; Federal Aviation Administration; Minneapolis, MN		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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